

AIRCRAFT CIRCULARS
NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

No. 96

THE "POTÉZ 33" MILITARY AIRPLANE (FRENCH)

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THE "POTEZ 33" MILITARY AIRPLANE (FRENCH).*

The "Potez 33" has a very complete military equipment so that it can be used in peace times as a school airplane for training pilots and observers, and in warfare as a messenger airplane, due to its maneuverability and low landing speed, which enable it to land on improvised fields. Its characteristics are the same as those of the commercial 32 type, the first French airplane of medium power actually in use on French and foreign air lines (Figs. 1 and 4).

The two enclosed pilot seats with dual control are placed abreast in the front end of the fuselage, thus affording perfect visibility.

All the control instruments (revolution counter, oil thermometer, gasoline gauge, air-speed indicator, altimeter, turn indicator, etc.) are conveniently arranged on the instrument board in front of the pilot. A compass and a drift indicator, mounted in the axis of the airplane can be observed at the same time by the pilot and by the navigator. Another drift indicator in the cabin serves for the instruction of the student observers.

This airplane has a complete electric outfit for night flying.

*From Bulletin Technique des Avions H. Potez, January, 1929.

An O.P.L. camera gun, operated by the pilot, is installed above the instrument board over the axis of the airplane (Figs. 2, 3 and 5). A T.O.7 balanced Scarff mount in the upper rear part of the cabin is fitted for twin machine guns, which have a very small dead angle due to the elevated position of the wing (Fig. 6). The bombing equipment consists of a vertical bomb rack for twelve 10-kilogram (22-pound) bombs inside the cabin and a S.T.I.Aé. bomb sight.

A hatch in the cabin floor is used for taking vertical photographs, while an orifice in the left wall of the cabin serves for oblique views. Special supports enable the use of all types of army camera.

A radio receiving set is installed in the upper front part of the cabin and a sending set in the lower part. Two keys enable the sending of messages, either from the cabin or from the navigator's seat (Fig. 7). There is a box of eight signal rockets which can be easily dumped and a rocket discharging tube which can also be dumped.

The size ($5.5 \text{ m}^3 = 194 \text{ cu.ft.}$) of the cabin makes it possible to accomplish all tasks under conditions of comfort quite superior to those found on airplanes now in service. The pilots are protected from the inclemencies of the weather. The seats for the crew are folding. There is a table for writing reports during flight. Long flights can therefore be made without fatiguing the crew. The very complete equipment, more-

over, is not limitative, the available space rendering it capable of being modified at the will of the users.

The "Potez 33" can be used

1. For the advanced training of pilots.— The seats for the pilots have dual controls and are placed abreast, thus enabling the student pilot to observe the gestures of the instructor and to hear the advice given by him.

2. For teaching observers.— There are places for two student observers and their instructor in the cabin, an arrangement which has never before been realized on an airplane of medium power. The large windows furnish excellent visibility. The noise of the engine is greatly deadened by the wooden walls of the cabin, so that the instructor can readily be heard by the students during flight. Communication between the cabin and the pilot room is easily made through a door, rendering it possible to train pilots and observers simultaneously and thus educate homogeneous crews.

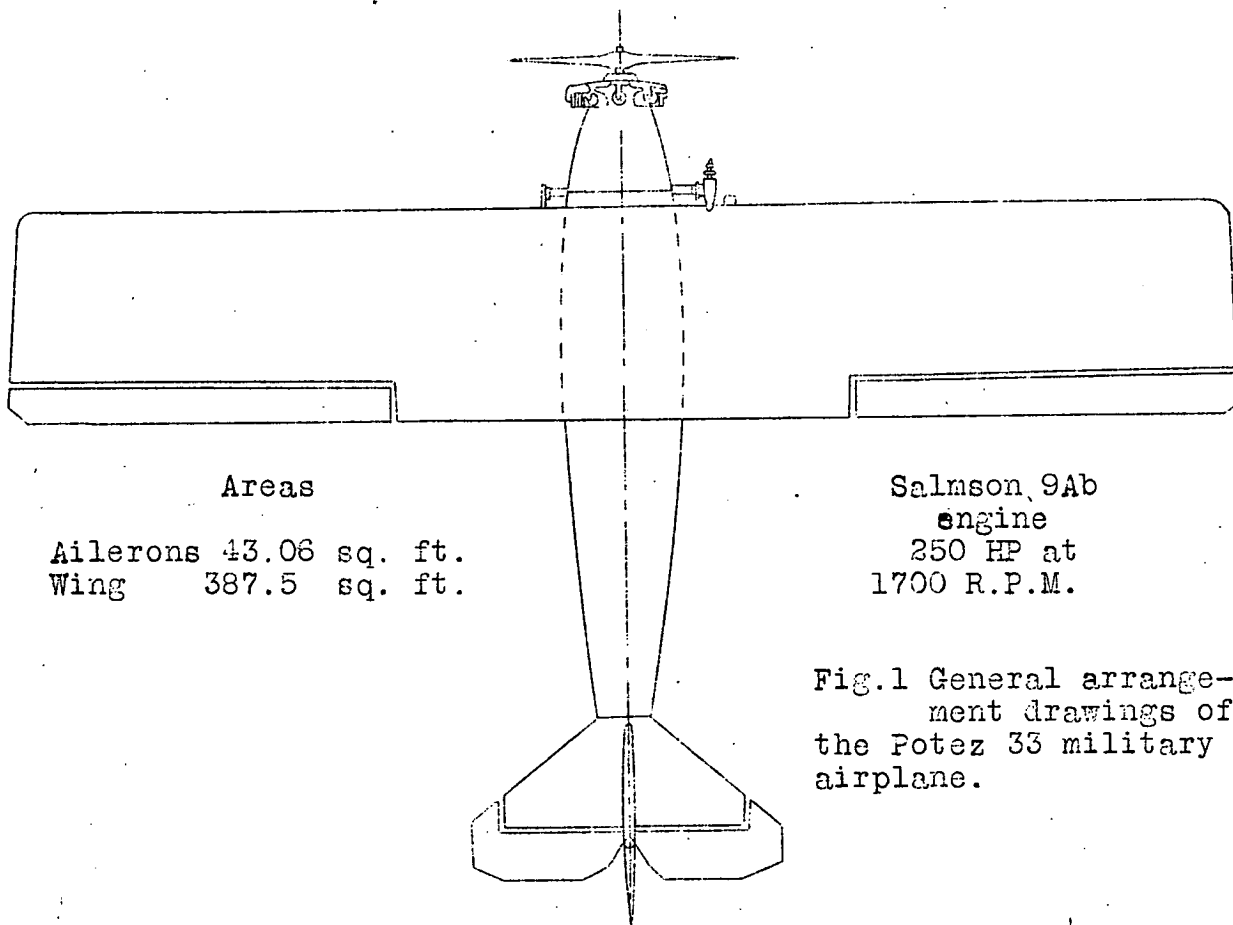
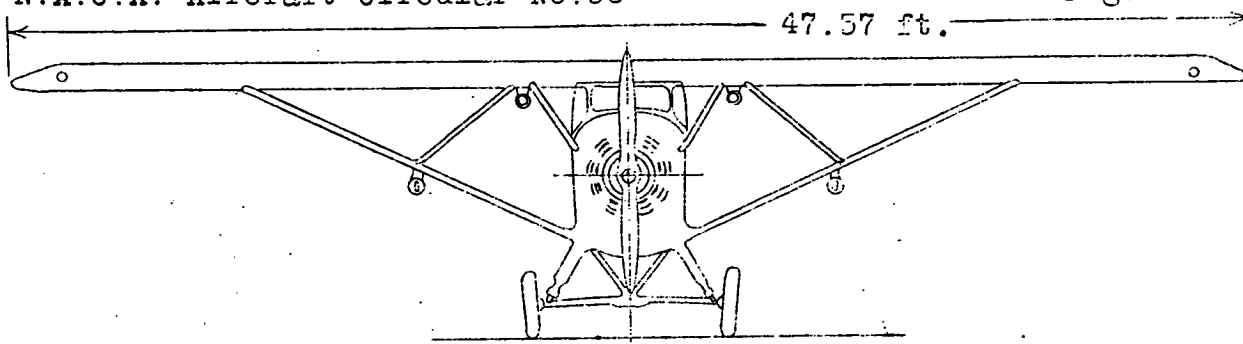
3. As a messenger airplane.— The "Potez 33" constitutes a fine type of swift and maneuverable messenger plane, able, in case of war, to perform all kinds of special missions, such as communications between the staffs, swift and comfortable transportation of important officials, etc.

4. As an ambulance airplane.— Special fittings in the cabin enable the "Potez 33" to be converted quickly into a light ambulance plane capable of carrying two wounded persons reclining, one wounded person sitting, and an attendant. Its low landing speed enables it to land on small fields near the fighting line.

Characteristics and Performances

Span	14.50	m	(47.57 ft.)
Length	9.82	"	(32.22 ")
Height	3.28	"	(10.76 ")
Track gauge	2.37	"	(7.78 ")
Wing area	36	m ²	(387.5 sq.ft.)
Area of aileron	4	m ²	(43.06 sq.ft.)
" " vertical empennage	1.855	m ²	(19.97 ")
" " horizontal "	4.637	m ²	(49.91 ")
Full load	1600	kg	(3527.4 lb.)
Wing loading	44.4	kg/m ²	(9.09 lb./sq.ft.)
Power "	6.4	kg/HP	(13.92 lb./HP.)
Maximum horizontal speed near ground	188	km/h	(116.82 mi./hr.)
Minimum horizontal speed near ground	80	"	(49.71 ")
Climbing time to 1000 m { 3,280.83.ft.)	5 minutes 30 "		
" " " 4000 " {13,123.00 " }			
Ceiling,	5500	"	(18,045.00 ")

Translation by Dwight M. Miner,
National Advisory Committee for Aeronautics.

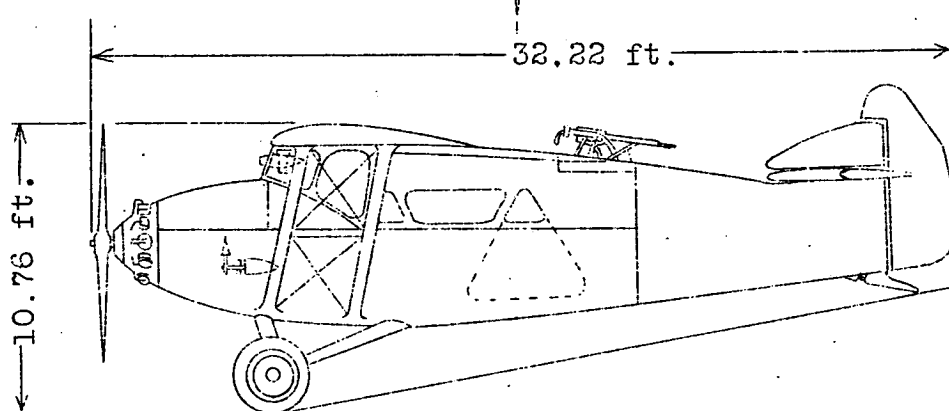


Areas

Ailerons 43.06 sq. ft.
Wing 387.5 sq. ft.

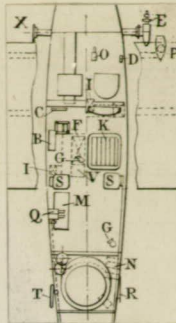
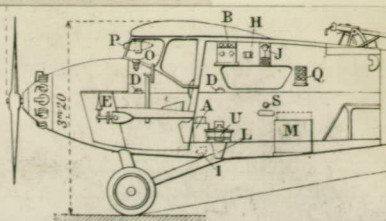
Salmson 9Ab
engine
250 HP at
1700 R.P.M.

Fig.1 General arrangement drawings of the Potez 33 military airplane.



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A, Radio sending set.
 B, " receiving".
 C, Antenna reel.
 D, Keys
 E, Alternator.
 F, Batteries, 24 volts
 G, Lamps
 H, Control panel
 I, Signal light
 J, Heating rheostat
 K, Sighting hatch with
 shutters. L, Camera F.26. M, Bomb rack, F.10
 N, Amunition box. O, D.P.L. sight. P, Camera gun.
 Q, Signal rockets. R, SIAé " " S, Folding seats.
 T, Drift indicator. U, Port for oblique photos.
 V, Inspection port. X, Generator support.



Plan view

Figs. 2 & 3 Location of equipment.

Figs. 2, 3, 4, 5, 6, 7 & 8

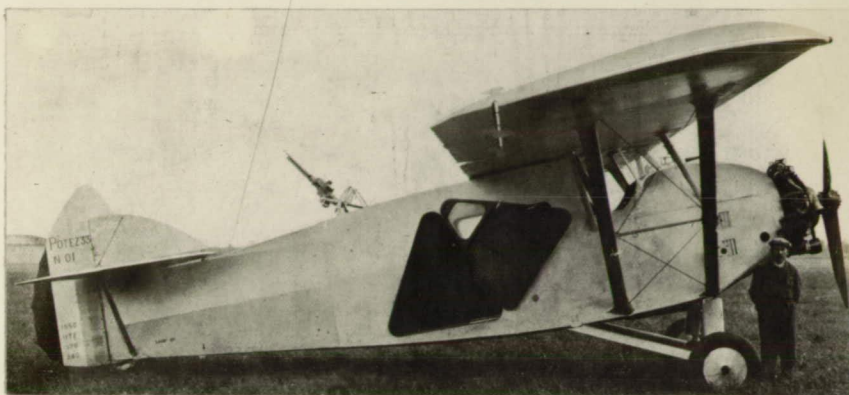


Fig. 4 Side view of Potez 33 airplane.

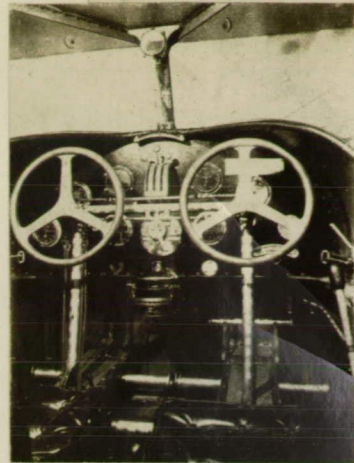


Fig. 5 Pilot seats of Potez 33 airplane.



Fig. 6 View toward rear.

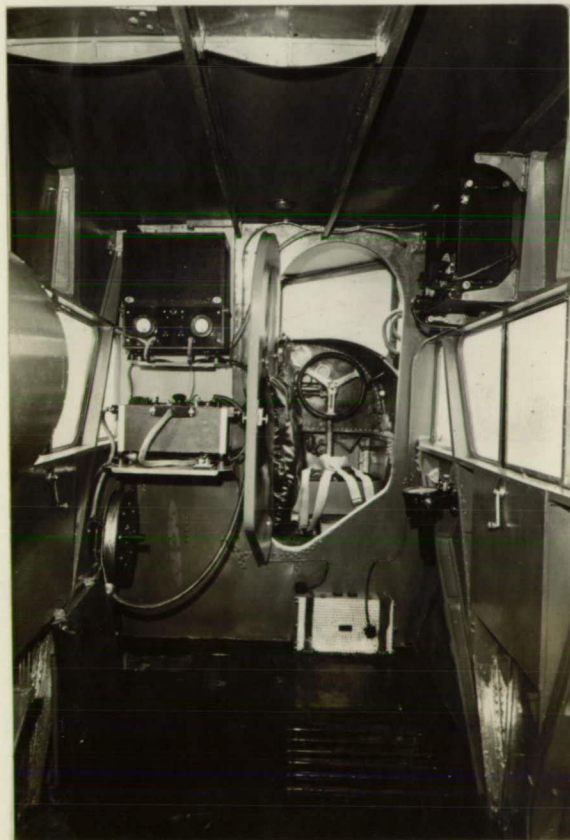


Fig. 7 View toward front.



Fig. 8 View of cabin arranged as ambulance.
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